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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/915,032 | 07/26/2001 | Donald R. Sidwell | SW-00777 | 8090 |

7590 08/27/2003
Robert A. Schruhl
1011 Lockheed Way
Palmdale, CA 93599-2191

EXAMINER

RUDDOCK, ULA CORINNA

| | |
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| ART UNIT | PAPER NUMBER |
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1771

DATE MAILED: 08/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/915,032 | SIDWELL, DONALD R. | |
| | Examiner | Art Unit | |
| | Ula C Ruddock | 1771 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 16 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-5 and 11-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-5 and 11-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Examiner has carefully considered Applicant's amendment and accompanying remarks filed June 16, 2003. The claim objections and 112, 2nd paragraph rejections have been overcome.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 1-5 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (US 4,801,491) in view of Coombs (US 4,937,136). Tanaka et al. teach a water-resistant and high-strength laminate. The laminate comprises a base cloth of woven cloth obtained by weaving (abstract). The warp and wefts which constitute the base cloth of the laminate are composed of ultra-high-strength-polyethylene filaments fibers (col 2, ln 20-22). The total denier of the warps and wefts is 50 to 800 denier (col 2, ln 48-50). The manner of weaving is not specifically limited and the cloth may be plain weave, twill weave, satin weave, and the like (col 4, ln 5-7). A biaxially oriented polyester film is adhered to at least one surface of the base cloth. The polyester film is composed of a polyester such as polyethylene terephthalate (col 4, ln 12-20). The adhesive layer which bonds the base cloth and polyester film can be a polyurethane resin (col 4, ln 49-59). The weight of the base cloth is 20-250 g/m² (col 3, ln 65-66). The woven cloth can comprise 36 by 36 yarns/ inch (TABLE 7, Ex. 19). With regard to the newly added claim limitation of a "helium impervious" material, it should be noted that because Tanaka et al. comprises the same materials as required by Applicant, the product of Tanaka et al. would naturally be helium impervious.

Tanaka et al. do not specifically teach that the polyethylene fibers are woven into a modified rip stop weave architecture and that the weave comprises 56 by 56 yarns/inch and 58 by 58 yarns/inch or that the fill of the individual plies are at 90 degrees to each other.

With regard to claims 1, 3, 11, and 12, it should be noted that optimizing the number of yarns per inch is a result effective variable. In addition, making a fabric into a 2x2 basket weave structure is a result effective variable. For example, the greater the amount of yarns per inch directly affects the strength of the woven cloth. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have used 56 by 56 yarns/inch and 58 by 58 yarns/inch and to have woven the fabric into a 2x2 basket weave structure, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have optimized the yarns per inch, motivated by the desire to obtain a cloth that has high durability and strength.

Tanaka et al. disclose the claimed invention except for the teaching that the fill of the individual plies at 90 degree to each other. It should be noted that it is well known in the composite art to place the individual layers in angular relation one another. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the individual plies of Tanaka's composite be at 90 degrees to each other, motivated by the desire to create a fabric having increased resistance and strength.

Tanaka et al. disclose the claimed invention except for the teaching that the cloth is in a rip stop weave architecture. Coombs (US 4,937,163) discloses a protective garment in a rip stop

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weave structure. Coombs discloses that the rip-stop weave is used because it is lightweight yet strong (col 4, ln 62-68). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have used Coombs' rip stop method of weaving on the woven cloth of Tanaka et al., motivated by the desire to obtain a cloth that is both lightweight yet has high strength.

With regard to claims 13 and 14, although Tanaka et al. and Coombs do not explicitly teach the claimed tensile strength and permeability, it is reasonable to presume that these properties are inherent to the composite of Tanaka et al. and Coombs. Support for said presumption is found in the use of like materials (i.e. woven cloth laminated to a PET film layer via a polyurethane resin). The burden is upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 495. In addition, the presently claimed property of an ultimate tensile strength of at least 600 lbs/inch width and a permeability of less than 1 liter/m²/day/atm of helium would obviously have been present once the composite of Tanaka et al. and Coombs is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977).

Response to Arguments

4. Applicant's arguments filed June 16, 2003 have been fully considered but they are not persuasive for the reasons set forth. Applicant argues that Tanaka et al. fail to disclose the use of two plies of cloth with the fill of the individual plies at 90 degrees to each other. This argument is not persuasive because in col 5, ln 38-40, Tanaka et al. discloses an embodiment with at least two layers of cloth. Furthermore, as shown above, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the individual plies of Tanaka's

composite be at 90 degrees to each other, motivated by the desire to create a fabric having increased resistance and strength. Applicant also argues that Tanaka et al. fail to disclose a cloth suitable for use as a wall of a flexible pressurized container or that it would be hydrogen impervious. This argument is not persuasive because it has been held that a recitation with respect to the manner in which a claimed product is intended to be employed does not differentiate the claimed apparatus from a prior art product satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2D 1647 (1987). In addition, as shown above, With regard to the newly added claim limitation of a "helium impervious" material because Tanaka et al. comprise the same materials as required by Applicant, the product of Tanaka et al. would naturally be helium impervious. Applicant also argues that Coombs teaches away from the invention by disclosing a cloth that is designed to form a vapor permeable moisture barrier. While this may be true, Coombs was only used for its teaching of a protective garment that is in a rip stop weave structure.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

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calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ula C Ruddock whose telephone number is 703-305-0066. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

UCR *UCR*

Ula Ruddock